



## Sensors lead to burst of tech creativity in government

Human and mechanical sensors are creating excitement in offices of government IT executives

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LAS VEGAS -- Here at an IBM conference, City of [Boston CIO Bill Oates](#) was telling the audience how citizens are using apps to improve city operations. But it was one of Boston's latest apps, called Street Bump, that got the interest of one attendee, Gary Gilot, an engineer who heads the public works board in South Bend, Ind.

Information collected by the new app, which uses a smartphone's accelerometer to record road conditions and send the data to public works workers, has already helped utilities to do a better job at making manhole covers even with the road, Oates said.

Street Bump will be the subject of a citywide publicity campaign this summer in an effort to attract more users, he added.

Gilot was struck by the app's use of [crowdsourcing](#) to assess Boston roads.

South Bend has taken different approaches to same problem.

It once had a half-dozen city supervisors spend six weeks each year driving every street in the city and rating them using a standard road condition measures. It's latest effort was to hire a vendor to drive all South Bend streets and produce digital video for an analysis of pavement conditions.

But after hearing Oates explain how the Street Bump data was producing "big data" about road conditions by people who launched the app in their cars, Gilot had an admiring smile.

"We are behind them by a bunch," said Gilot, who sees Boston's app as a possible alternative to costly road surveys.

"I love the idea of the future -- that you can avoid the expense by crowdsourcing," said Gilot.

South Bend is not behind in the trend of using sensors to improve other operations.

For instance, the city has worked with IBM to create a wireless sensor system that detects changes in the sewer flow, and alerts the city to any problems detected. The system, which includes automated valves that can respond to issues, has reduced overflows and backups, said Gilot.

Improving municipal operations is a major theme at the IBM conference. The company's Smarter Planet initiative combines sensors, asset management, big data, mobile and cloud services into systems for managing government operations.

Boston and South Bend share in the use of sensors, one human-based and the other mechanical. The adoption of sensors, mobile apps and otherwise, appears to be leading to a burst of creativity in state and local governments.

Boston's chief vehicle for connecting with residents is its Citizens Connect app. The city will release version 4.0 this summer, with changes that will make it easier for city workers to connect directly with residents.

Citizens Connect allows residents to report issues that need government action. Those issues

might be a broken street light, trash, graffiti. The reports are public.

Oates said the app encourages participation. To find out why people used the app, the city asked app users why they didn't call the city about maintenance issues in the pre-app days.

The response, said Oates, was this: "When we call the city we feel like we're complaining, but when we use this (the app), we feel like we're helping."

In discussing Street Bump, he says it's entirely possible that analysis of the data may lead to new sources of information. Similarly, Gilot said the sewer data collection was making it possible to determine what "normal" was.

"You really don't know what's normal until have you have this kind of modeling," said Gilot.

The changes in Citizens Connect 4.0 will help personalize the connections that city residents make with government.

For instance, today a citizen sends in a pothole repair request and the city fills the pothole. With the update, the worker will be able to take a picture of the completed work and send it back to constituent who sent the request.

The person who drew attention to the maintenance problem will be informed that "the case is closed, and here's a picture and this is who did it for me," said Oates.

The citizen will be able to respond with a "great job" acknowledgement, although Oats realizes negative feedback is also possible. "We think it puts pressure on the quality of the service delivery," he said.

Boston gets about 20% of its maintenance "quality of life" requests via the app.


Boston's effort is the forerunner of a Massachusetts state-wide initiative called Commonwealth Connect that was announced in December.

This state-wide app is being built by SeeClickFix, a startup whose app is already used in many cities and towns. The app is free. The firm offers a "premium dashboard" used by municipalities. It also has a free Web-based tool that is used by smaller towns, said Zack Beatty, head of media and content partnerships for the New Haven, Conn.-based firm.

Beatty said the app will be deployed in more than 50 Massachusetts communities, its first state-led deployment.

SeeClickFix uses cloud-based services to host its app, something South Bend is doing as well for a sewer sensor system as well to manage its IBM system.

Authorizing an in-house deployment would have required an authorization for hardware, said Gilot. From a budgeting perspective, it was easier to move money from other accounts for cloud-based services. In any event, running IT equipment is not the city's core competence.

**Patrick Thibodeau** covers SaaS and enterprise applications, outsourcing, government IT policies, data centers and IT workforce issues for Computerworld. Follow Patrick on Twitter at [@DCgov](https://twitter.com/DCgov), or subscribe to [Patrick's RSS feed](#) . His e-mail address is [pthibodeau@computerworld.com](mailto:pthibodeau@computerworld.com).